

REMARKS

Claims 1-30 are pending in the application. Claims 11, 17-19 and 27 stand objected to. Claims 1-10, 12-16, 20-26 and 28-30 stand rejected. Claims 1 and 16 were cancelled. Claims 2, 5, 7-15, 17-20, and 24 were amended. Claims 31-32 were added. Claims 2-15 and 17-32 remain in the application.

The specification was objected to by the Examiner, in that a period was missing. The specification was corrected.

Claim 15 stands rejected under 35 U.S.C. 101 and has been corrected, as suggested by the Examiner.

Claims 11, 17-19, and 27 stand objected to as being dependent upon a rejected base claim, but allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim 11 was so rewritten.

Claim 17 states:

17. A method of improving the sharpness of an image according to its material content, said method comprising the steps of:
providing an image comprised of image pixels;
generating a belief map corresponding spatially to the image pixels, wherein the belief map includes belief values indicating the likelihood that respective pixels are representative of a particular material;
generating a sharpening parameter from the belief map; and
using the sharpening parameter to sharpen the image,
wherein the sharpening parameter is applied uniformly to the image pixels;

wherein the particular material is selected from the group consisting of flesh, faces, sky, and vegetation and the sharpening parameter conditions the amount of sharpening upon a characteristic of the belief values in the belief map that represent the selected material.

Amended Claim 17 is supported by the application as filed, notably original Claims 8, 16-17, and 24. Claim 17 incorporates the language of Claim 16 and, in place of "flesh" has the Markush group: "selected from the group consisting of flesh, faces, sky, and vegetation". It is believed that the changed language does not effect allowability of the claim.

Claim 18, which depends from Claim 17 was amended to track Claim 17.

Claim 19, which was dependent from Claim 12, has been amended to depend from Claim 17.

Claim 27 is discussed below.

Claims 1-5, 16, and 20-22 stand rejected under the judicially created doctrine of double patenting over claims 1-4 of U.S. Patent No. 6,891,977 B2. The subject matter at issue in this rejection is no longer present in the claims. Claims 1 and 16 were cancelled. Claims 2-5 are allowable as depending from Claim 11. Amended Claim 20, as discussed below, is allowable on the same grounds as Claim 11. Claims 21-22 are allowable as depending from Claim 20.

Claims 1, 5-7, 9-10, 14-15, 20, 22-26, and 30 stand rejected under 35 U.S.C. 102(b) as being anticipated by Qian (US Patent 6,707,940B1). Claims 2, 16, and 21 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Qian in view of Maurer et al. (US Patent 6,731,821B1). Claims 3-4 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Qian in view of Maurer et al. and further in view of Gouch et al. (US Patent 5,682,443A). Claim 8 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Qian in view of Jamzadeh (US Patent 5,889,578A). Claims 12-13 and 28-29 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Qian in view of Matsugu et al. (US Patent 6,453,069B1).

Claims 1 and 16 were cancelled.

Claims 2-10 and 12-15 are allowable as depending from Claim 11 and as follows. Claim 8 has been amended to state:

8. The method as claimed in claim 11 wherein the particular material is selected from the group consisting of faces, flesh, sky, and vegetation and the improvement parameter conditions the amount of improvement upon a characteristic of the belief values in the belief map that represent the particular material.

Claim 8 is similar to Claim 17 and likewise requires "the particular material is selected from the group consisting of faces, flesh, sky, and vegetation".

Claim 20 was amended to state:

20. A system for improving a characteristic of an image according to its material content, said system comprising:

an image generator providing an image comprised of image pixels;

a material detector generating a belief map corresponding spatially to the image pixels, wherein the belief map includes belief values indicating the likelihood that respective pixels are representative of a particular material;

a map analyzer grouping the belief values spatially into different sized regions of similar belief values and generating an improvement parameter from the belief values of the belief map, wherein the improvement parameter is proportional to the size of at least one of the regions and applied uniformly to the image pixels; and

a processor using the improvement parameter to improve the characteristic of the image.

Claim 20 requires "a map analyzer grouping the belief values spatially into different sized regions of similar belief values and generating an improvement parameter from the belief values of the belief map, wherein the improvement parameter is proportional to the size of at least one of the regions and applied uniformly to the image pixels" and is allowable in the same manner as Claim 11.

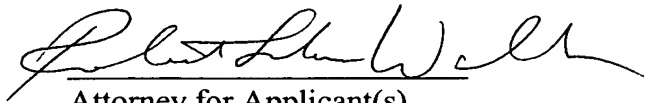
Claims 21-23 and 28-30 are allowable as depending from Claim 20. Claim 27 is also allowable on the basis stated in the Office Action.

Added Claims 31-32 are supported by the application as filed, notably original Claims 25-26 and 15, respectively; and are allowable as depending from Claim 17.

It is believed that these changes now make the claims clear and definite and, if there are any problems with these changes, Applicants' attorney would appreciate a telephone call.

In view of the foregoing, it is believed none of the references, taken singly or in combination, disclose the claimed invention. Accordingly, this application is believed to be in condition for allowance, the notice of which is respectfully requested.

Respectfully submitted,

A handwritten signature in cursive script, appearing to read "Robert Luke Walker", written over a horizontal line.

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